SERIAL NO. 09/930,964   **DOCKET NO. 1316.1021CC**

<u>IN THE SPECIFICATION</u>:

Please **AMEND** paragraph 0001 as follows:

[0001] This application claims the benefit of Korean Application No. 97-11297, filed March 28, 1997, and is a continuation of U.S. Patent Application No. 09/419,792, filed in the U.S. Patent and Trademark Office on October 18, 1999 and which issued as U.S. Patent No. 6,304,540, now pending, which is a continuation of U.S. Patent Application No. 09/049,988, which issued as U.S. Patent No. 6,043,912, the disclosures of which are incorporated herein by reference.

Please **AMEND** paragraph 0022 as follows:

[0022] FIG. 5A is a view showing the structure of the holographic ring lens 35. The holographic ring lens 35 has an inner region 351 including an optical center of the holographic ring lens 35, a holographic ring 353 centering at the optical center of the holographic ring lens 35 and surrounding the inner region 351, and an outer region 355 surrounding the holographic ring 353. In connection with FIG. 4A, the inner region 351 coincides with the region A, the holographic ring 353 coincides with the region F, and the outer region 355 coincides with the region B except the region F. A region D shown in FIG. 5B below where the hologram in the holographic ring lens 35 shown in FIG. 5A is provided on the holographic ring 353, corresponds to the numerical aperture of 0.3~0.5 which is intended to be appropriate to the CD-R. In FIG. 5A, a symbol E indicates the diameter of the objective lens for a DVD whose numerical aperture (NA) is 0.6. Also, the holographic ring lens 35 used in the present invention can selectively adjust the numerical aperture (NA) of the objective lens according to the wavelengths of the light beam, and requires no separate variable aperture. The holographic ring lens 35 has the same function as a general spherical lens which transmits a light beam in the convergent or divergent form. Further, the holographic ring lens 35 has a positive optical power and uses a phase shift hologram as a hologram formed in the holographic ring 353. An optimized depth of the grooves the hologram should be determined so that the holographic ring 353 selectively diffracts the incident light beam according to the wavelength thereof. The holographic ring lens 35 is constructed so that the light beam of the 650nm wavelength has transmissive efficiency close to 100% 100%e and the light beam of the 780nm wavelength has a zero-order transmissive efficiency of 0% with respect to non-diffracted light beam. For that, in case that the holographic ring 52 has grooves of a constant depth the phase variation by the groove depth of the holographic ring should be about 360° with respect to the 650nm wavelength light. Since the phase variation is generated by 360°, the holographic ring lens 35 transmits most of the 650 nm

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wavelength light. The phase variation by the holographic ring 353 should be optimized with respect to the 780nm wavelength light, by which the 780nm wavelength light is all diffracted as first-order light. As a result, the holographic ring 353 is designed to hardly diffract the 650 wavelength light, but to diffract the 780 nm wavelength light as a first-order diffracted light. An optimized surface groove depth d of the holographic ring 353 for selectively diffracting 650 nm and 780 nm wavelength light beams is determined by the following equations (1) and (2).

Please **AMEND** paragraph 0025 as follows:

[0025] FIG. 6 is a graphical view showing zero-order transmissive efficiency of the holographic ring according to the wavelengths of incident lights. When the surface groove depth d is 3.8μm, the 650 nm 650am wavelength light is transmitted via the holographic ring 353 by 100% as shown in a solid line overlapped with the symbol "++", and the 780 nm 780am wavelength light is transmitted via the holographic ring 353 by 0% as shown by a solid line overlapped with a circle. At this time, the holographic ring 353 diffracts the 780 nm wavelength light as the first-order light, in which diffraction efficiency thereof is 40%.

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